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The Forum of Electric Energy and Gas Consumers 10th March 2020

European Commission

Directorate-General for Competition

Unit B3 – State Aid II

1049 Brussels

Belgium

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Dear All,

We would like to take this opportunity to comment on the draft of "*Guidelines for on certain State aid measures in the context of the greenhouse gas emission allowance trading scheme post-2020*". It is of utmost importance to have such an essential tool that manages to level the playing field in the context of imbalanced climate policies and thus, ensures international competitiveness of EU producers, reducing the risk of carbon leakage in its many forms. Therefore, we would like to present our views regarding the following issues:

(1) ELIGIBILITY

It is understood that the sole authority on State Aid is with DG COMP. However, in order to safeguard an integrated approach to consistency, stability and predictability, the methodology used for indirect costs compensation eligibility list should be consistent with the approach developed by DG CLIMA for EU ETS phase III in terms of the quantitative and qualitative methodology applied to indirect cost eligibility and the assessment of the risk of carbon leakage.

In contrast to the logic applied in ETS phase III assessment, COM Explanatory Memorandum[1] **practically excludes qualitative assessment, which is especially important for borderline cases**: *"The Commission may decide to include additional sectors, in light of the feedback and evidence received in the public consultation,* ***based purely on qualitative considerations*** *provided the sectors concerned have* ***at least an indirect carbon leakage indicator of 0.2*** *and that their* ***carbon leakage risk as evaluated by the consultant in the study is at least medium****".*

[1] COM Explanatory Memorandum

Such a stringent approach takes into account neither qualitative conditions which allowed to enter qualitative assessment in ETS phase III assessment:

- **Borderline sectors:**
  IEC (indirect emission cost) 3% - 5% and TI (trade intensity) > 10%,
- **Official data are missing or are of poor quality,**
- **Insufficiently represented by the quantitative assessment and IEC > 1%.**

nor fuel and electricity exchangeability. Disregard for the latter may lead to market distortions as certain products can be produced through both fuel- or electricity-driven processes. The exchangeability is used to set these product benchmarks in order to avoid distortion between EU producers. Otherwise, installations interchangeably using heat or mechanical energy from electricity would be in a significantly worse situation than those using heat or mechanical energy from fuel combustion, even if the overall emission efficiency of both installations is at the same level.

As indirect emissions from electricity consumption are not eligible for free allocation, the share of indirect electricity emissions is subtracted from the calculated free allocation. Therefore, for consistency reasons, all sectors with product benchmarks which face exchangeability should be eligible for full indirect cost compensation to avoid distortion between EU producers. The logic was followed during qualitative criteria setting for indirect compensation in phase III: for indirect compensation eligibility in case of a higher trade intensity, a lower cost criterion has been accepted for sectors where fuel/electricity exchangeability is a key factor.

On the other hand, the compensation schemes present currently in most industrialized EU Member States do not seem to create any undue distortions on internal market. Please kindly refer to the attached additional argumentation on behalf of particular sectors.

Furthermore, the consultants evaluation detrimental for a possibility to even enter into qualitative analysis is not transparent and apparently arbitrary. The Sector Fiches referenced in Consultants Report has not been provided during public consultation making it impossible to cross-check the impact assessment performed. We would like to emphasize here that on January 30th the Forum of Electric Energy and Gas Consumers requested access to the above-mentioned Sector Fiches (*ref. GestDem No 2020/0560*). In our opinion those documents are crucial for submitting adequate comments within public consultation process to your DG. Unfortunately, on February 20th we received a reply from DG COMP which extended the deadline for an official reply till March 11th making us unable to refer to those documents.

We consider qualitative assessment necessary in case of sectors, which not qualify under the quantitative assessment due to high level of aggregation of statistics, lack of reliable data and strategic overview of market characteristics. It is especially true in the view to rapid increase of comparative costs resulting from raising EU climate and environmental ambitions. In other words, what currently meets the methodological parameters of sectors exposed to carbon leakage may be too narrowly defined, because the difficult cost environment may create incentives to shift the production of a given product outside the EU, where no such burdens are imposed on industry. Exclusion form a list of sectors eligible for indirect cost compensation may turn out to be the last straw outweighing relocation or investment decisions for many EU producers. Such an investment and production leakage would, in turn, result counterproductive to the EU climate and

environmental objectives. Hence, the number of sector eligible for compensation should increase rather than decrease.

We encourage Commission to reconsider particularly following NACE sectors, which are discussed in more detail in the attachment(s):

Cement industry

23.51 Manufacture of cement

Chemical industry

20.11 Manufacture of industrial gases
20.14 Manufacture of other organic base chemicals
20.15 Manufacture of fertilisers and nitrogen compounds
20.16 Manufacture of plastics

Copper industry

07.29 Mining of other non-ferrous metal ores
24.44 Copper production

Glass industry

23.11 Manufacture of flat glass
23.13 Manufacture of hollow glass
23.14 Manufacture of glass fibres

It is worrying that a range of important energy intensive sectors is not on a list. The manufacturing sector employs 2.65 million people in Poland alone. Over 400 large energy intensive enterprises are located across country, providing well-paid jobs in nearby small and medium-sized towns.

Reducing number of sectors eligible for compensation also raises barriers to the transition towards a low-carbon economy, not only because of significantly increased costs of expected electrification of processes required for further emission reductions, but also due to imposition of limitation to the potential cPPA market with renewables. Extra EU producers have little to no incentive to conclude cPPAs with RES in the EU whereas growing EU industry's awareness of the consumers' pressure for the sustainable production, incentivizes EIIs to rebuild their competitiveness on the basis of renewable energy sourcing. Preventing production and investment leakage has, thus, additional significance for energy transition and possibility to speed it up regardless of political agenda in various Member States.

We therefore call on the Commission to build forward-looking regulatory framework and develop legislation that ensures the policy framework that drives societal (employment) and economic (competitiveness) dimension to the benefit of environmental objective – to limit carbon leakage.

(2) AID INTENSITY

The draft Guidelines propose the aid intensity at a stable level of 75% throughout entire ETS phase IV. In view to calculation of maximum aid being based on the most recent production data and very ambitious efficiency benchmarks we would like to ask Commission to reconsider raising aid intensity to 100%. Alternatively, just like under previous guidelines, the intensity factor could be set at the level of 100% at the beginning and reduced later.

In order to ensure transparency and legal certainty the electricity consumption efficiency benchmarks should be determined *ex-ante* without further revisions for entire 4 phase of EU ETS, especially if maximum aid intensities are to already ensure only partial compensation for the costs of EUAs in electricity prices.

(3) CONDITIONALITY

We urge Commission to reconsider its proposition on conditionality for beneficiaries. It is valuable to promote energy efficiency and commitments to use clean energy or abate direct emissions. Nonetheless, we are afraid that such a specific wording may turn counterproductive to the Commission's goals of reducing carbon leakage risk while quickly increasing renewable energy sources' (RES) presence in energy mixes of Member States.

Actually, energy audits and energy management systems are already introduced in indirect cost compensation scheme in Poland. However, the proposed condition to have aid invested in energy efficiency measures with the proposed [5 years] payback time should be challenged. Investments in energy efficiency improvements in energy intensive industries often take many years and are conducted in stages. Majority of investments have already been completed (*low-hanging fruits*) and it becomes more difficult to achieve the proposed payback time. As a possible option we recommend introducing longer payback time to avoid discrimination against projects that generate substantial cash inflows in later years.

Moreover, the incentives to energy efficiency improvements are already present in sectors with already adopted ambitious product benchmarks reflecting the best performance in the sector (to be further updated for EU ETS phase IV). The use of recent production data and updated benchmarks replace aid degressively and provide sufficient incentive for energy efficiency investments. However, the dynamic adjustment of aid (based on recent electricity consumption data) is likely to reduce the incentive to energy efficiency improvements in case of beneficiaries manufacturing products where fall-back electricity consumption efficiency benchmark is applied, as improving energy efficiency directly translate into an aid's decrease.

We would like to build our competitiveness on the basis of renewable energy sourcing. The condition to reduce carbon footprint of electricity consumption should nevertheless take into account the specific characteristics of energy intensive industries and energy mixes of different Member States as to speed up energy transition and not to create unduly market distortions.

The proposed 50% threshold is too high taking into consideration Polish energy market conditions. The share of renewable electricity in the Polish energy mix in 2018 was only 13% and thus it's impossible for industrial consumers to buy it in the amount of 50% of their own demand. The Forum of Electric Energy and Gas Consumers has developed a programme for the development of renewable industrial energy, but the effects of its implementation may be visible in the coming 4 years, as the investment process in wind sources connected directly to the power grids of industrial plants takes so long. Increasing the share of renewable energy sources in the consumption of our plants through autoproduction (energy production in renewable energy sources connected directly to the plant network). However, due to the risks arising from the increasing costs of balancing unstable sources (such as wind and solar sources), the installed capacity of these sources should not be higher than 20% of the average power demand during the year - and such percentage would be an ambitious goal. In relation to our estimates, this would translate into 1.2 GW of onshore wind energy and 1.9 GW of PV. This share of renewables could be balanced within our internal industrial grids, without posing additional burden to the National Power System. The annual production of these renewable installations would correspond to 6,8 TWh of clean energy and would significantly contribute to the decarbonisation of the Polish power system as this energy would no longer have to be bought from Polish heavily carbonised energy sector.

One could also consider entering into cPPAs with renewable energy sources. There are 2 possible options: (i) PPAs linked to the physical supply of renewable energy, (ii) cPPAs treated as financial instruments. We would like to point out that concluding such contracts would be much easier and cheaper for industries in Member States, which are more advanced in their energy transition. Industries in such countries are already enjoying lower energy costs thanks to higher share of renewables in their national energy mixes. With the proposed wording of par. 54 (b) they would have an additional undue competitive advantage of cheaper access to more independent renewables, which they did not financed or decided to build.

To summarize, we propose that the condition of limiting the carbon footprint in consumed electricity could be implemented alternatively by:

1) documented start of the investment in RES connected to the power grid of an industrial plant, or

2) confirmed purchase of renewable energy from the National Power System in an amount reflecting the share of electricity production from RES in domestic electricity production, or

3) entering into cPPA contracts covering not less than 20% of the annual demand of each industrial consumer.

The draft also proposes exceedingly ambitious indication of substantial reduction of direct emissions. Due to the methodology used in benchmarks update, they are reduced to the levels not achievable by the industry at large. It is important to stress that each subsequent emissions reduction achieved costs more and the increasing number of companies reach economic and technological limitations of production assets. Too ambitious benchmarks lose their motivational goal, as the companies not able to meet benchmarks and burdened with increasing direct emissions costs, tend to limit or simply end the production.

(4) EMISSION FACTOR

We agree that country level approach, which has been maintained in draft Guidelines, is appropriate because there are still great limitations to market coupling in the majority of Member States.

ATTACHMENT

19.20 Manufacture and processing of refined petroleum products

NACE 19.20 code is exposed to high risk of carbon leakage in EU ETS phase 4 as confirmed by an exposure factor of 3.22, way higher than the EU ETS Directive threshold (0.2). Unlike in case of the EU average trade intensity indicator, the sector in Poland records significant trade deficit (EUR 8.36 billion in 2017).

Profit margins of refineries depend on the volatility in market prices for both crude oil and refined products. Oil refiners are price takers as more than 80% of total production costs is attributed to globally priced crude oil. The remaining cost components, including electricity, are affected by the rising price of emission allowances that increasingly reduce trade margins vis-à-vis non-EU competition, in particular on refined products' markets.

This mature and one of the most capital-intensive sectors in the EU relies on the economies of scale and low margins. Market competition is strong not only due to non-EU suppliers but regulatory support for substitutes (biofuels and e-mobility) that increasingly reduces the possibility of CO2 cost pass-through onto the customers without losing market shares.

Even without the indirect compensation system the refining industry in Poland undertakes investments that result in a higher reduction of greenhouse gas emissions. The improvement of refinery process efficiency and the transition to less emission sources of energy (cogeneration gas power plants in Płock and Włocławek) resulted in constant emission levels despite more that 3-fold increase of sectors' value added (2013 - 2017).

20.14 Manufacture of other basic organic chemicals and 20.16 subsectors

The main groups of high-volume organic compounds are aliphatic compounds (ethylene, propylene), aromas (benzene, toluene, xylene cyclohexane, cyclohexanone), heterocyclic compounds as caprolactam, OXO alcohols and oxygen compounds such as ethylene oxide, ethylene glycol, formaldehyde and methanol. Clothing, packaging, consumer goods, car components, airplanes, computers, paints, solvents, cosmetics and pharmaceuticals are among products that rely on organic chemicals. They also provide solutions to CO2 emission reduction of many downstream sectors - from insulation materials, lighter materials for transport to advanced materials for renewable technologies.

The EU is currently a net exporter of petrochemicals (classified under NACE 20.14 'basic organic chemicals'), but the trade balance has been deteriorating for last decade, to great extent due to the competitive pressure exerted by the US producers fuelled by cheap shale gas. The potential expansion of production capacity in EU countries is determined by its future competitiveness, i.e. global market structure and market shares, elasticity of demand and supply, and profit margins.

Support in the form of indirect cost compensation for the petrochemical sector is particularly important both from the point of view of products' linkages and interdependence with the refining sector, as well as with non-integrated locally downstream chemicals produced in Poland and in the

region, which are heavily dependent on local refinery and petrochemical feedstocks. Indirect cost compensation limited to the refinery production is bound to change the economics of petrochemical production, in particular in case of integrated installations. Across the whole value chain, the production of some intermediates is very energy intensive and results in high emissions that are impossible or hard to abate. Chemical industry is unique as almost 75% of energy is used as a raw material[2]. Holistic and thorough view across the entire value chain - refining, petrochemical and chemical product segments is required.

Petrochemical products (NACE code 20.14) are a strategic group of compounds for the production of specialty chemicals, primarily used as the basic raw material for the production of plastics and polymers (NACE code 20.16) as well as OXO alcohols. The fundamental importance from the point of view of the efficiency of existing production plants and planned multi-billion investments in the development of petrochemicals and their downstream products in Poland and in the UE is to maintain NACE 20.14 code on the list of sectors eligible for compensation.

Petrochemical production and chemical sector rely on economies of scale and highly integrated production installations that allow for optimization of energy consumption, as illustrated by a more than 30% decrease in unit energy consumption in the production of ethylene and propylene in Poland (2013 – 2018). Simultaneously the European chemical industry has already put a huge effort into improving energy efficiency. Despite an increase in production volume by 78% in the years 1990-2014, fuel and energy consumption decreased by 22%, and GHG emissions were reduced by 59%. The operations of the refining, petrochemical and chemical sectors are closely interconnected as their products serve as raw materials and semi-finished products processed at various stages within these sectors. The need to purchase an increasing number of more expensive CO_2 emission allowances leads to production costs rise, which weakens the competitive position of some most energy intensive processes at various stages of the value chain.

In order for the EU to achieve a climate-neutral economy, measures are required to balance the ambitions of climate and energy policy with maintaining and improving the competitive situation of the refining, petrochemical and chemical industry. Poland, as one of the countries with a high share of energy-intensive industry in the total economic output, is much more at the risk of carbon and investment leakage. The chemical segment is one of the fastest growing industries of the Polish economy with 17% of the value of Polish industrial production sold (62,15 billion EUR, 2018), 12% of total employment in the entire Polish industry (315,000 employees) in over 11,000 enterprises. Despite growing regulatory costs, these sectors are constantly improving their environmental footprint - the value of chemical production sold in Poland over the past twenty years shows an over six-fold growth, while energy consumption was reduced by almost half.

20.11 Manufacture of industrial gases

The industrial gases sector is highly electro-intensive, having **an indirect emission intensity of 15.1 kg CO2/€GVA**. This intensity is recognized in the EU ETS Phase 4 carbon leakage list.

[2] Joint Research Centre (JRC), „Energy efficiency and GHG emissions: Prospective scenarios for the Chemical and Petrochemical Industry", May 2017

Industrial gases - **predominantly air gases (such as oxygen, nitrogen, etc.) and hydrogen** - play an important role for energy-intensive industries (such as metals, refineries and chemicals). In developed markets, **insourced and outsourced production of these gases compete strongly with each other**. However, it is the outsourcing business model offered by industrial gas companies that has always been the driving force in the development of new industrial gases applications, with investments aimed at achieving the highest levels of safety, industrial efficiency, environmental care and at providing low carbon solutions for industry.

As energy transition proceeds and as higher carbon prices drive emission reductions and electrification of industrial processes, this long-established role of industrial gases will become more and more important. It is therefore crucial that (i) a level playing field for industrial gases outsourced production should be ensured and that (ii) **European energy-intensive industrial value chains should remain competitive by including the industrial gases sector as eligible for financial compensation** for ETS indirect costs after 2020. Alternatively, just as in case of allocation of free emission allowances from an installation following heat recipient compliant to rules regulating allocation of free direct emission allowances, use of technical gases (i.e. oxygen, hydrogen) in sectors eligible for compensation of indirect emission costs should also be considered as eligible for compensation irrespectively of whether it is use of autoproduced technical gases or of technical gases which production has been outsourced to a third party.

20.15 Manufacture of fertilisers and nitrogen compounds

Manufacture of fertilisers and nitrogen compounds is **one of the most energy intensive sectors** in the European Union. Although EU plants are among the most efficient in the world, energy and gas can still account for up to 85% of the cost of production of ammonia, the key building block of all nitrogen fertilisers.

The fertiliser industry is **a global industry**, with main production of **key raw materials (gas), intermediate products (ammonia, nitric acid), final products and main consumption outside the EU**, where it faces no comparable climate policy costs. Ammonia and urea are global commodities, which makes EU producers price-takers on a global market. The business conditions in the EU have further deteriorated as producers from i.e. Russia and USA increasingly penetrate the EU market (with **import market share in nitrogen fertilisers up to 30% and higher**). Consequently, the EU fertiliser sector has no possibility to pass increased costs to their clients (nor should it be forced to even consider such attempts given the role that EU farming plays in the EU social fabric and in the EU food security).

Moreover, EU producers of fertilisers and nitrogen compounds struggle every day with distorted prices of its main input: gas, exported at high prices to the EU and sold at low prices domestically to their foreign competitors (**dual-pricing**). This has been recognized by DG TRADE in various trade proceedings. Oligopolistic position of third countries' companies in case of critical raw materials i.e. phosphate rock further contributes to the unlevel global playing field for this sector.

Hence, we fear that in such unfavourable market conditions on both supply and demand side, exclusion of this sector from the list of sectors eligible under the revised Guidelines may be the last competition distortion that will drive more manufacture of fertilisers and nitrogen compounds out of

the EU. This is actually already happening as illustrated by the mega euro billion investments made by fertiliser producers in USA, Algeria and Egypt. Given that the key **third countries' fertilizer producers have no comparable GHG reduction schemes** (in other words they are fully carbon emitting on their electricity source, production and transport and more NO_x emitting on their production), such a change would **increase a carbon footprint globally**.

In order to stop the afore-mentioned carbon leakage manufacture of fertilisers and nitrogen compounds should be eligible for compensation of indirect emission costs.

It is also necessary to underline that allowing for compensation of indirect ETS costs for fertilizer production threatens no other goals addressed by the State Aid ETS Guidelines, i.e. neither maintaining a level playing field in the EU nor preservation of incentives for a cost-effective decarbonisation. On the contrary, the exclusion of the fertiliser industry from the list of eligible sectors increases risks in the afore-mentioned perspectives.

As mentioned earlier, the **EU fertiliser producers are among the most efficient in the world in terms of electricity consumption**. Therefore, increasing indirect emission costs instead of pushing the industry to further investment will deprive it of cash necessary to fund the investments. However, if the sector is eligible for compensation of such costs, the industry will be able to **continue its emission reduction efforts driven i.e. by high direct emission costs**. Two thirds of the natural gas that are used as feedstock for ammonia production and the related CO_2 emissions (called process emissions) will remain a strong incentive to invest in decarbonisation.

As most EU producers currently obtain or shall soon obtain compensation for indirect ETS costs, such **compensation does not pose any competition concerns**.

Finally, if compensation of indirect emission costs in the sector was discontinued because of revised Guidelines, it would affect **competition due to energy interchangeability** i.e. the fact that ammonia plants may use three sources of energy: gas, steam and/or electricity or any mix thereof. The energy configuration of an ammonia plant is set during design phase and changing it later leads to massive costs resulting from the need to reconfigure the entire plant, making it practically impossible.

The benchmark used for free allocation of ETS allowances for ammonia plants is based on energy consumption (not directly affected by energy source), but the allocation itself is based on actual direct emissions (affected by energy source, as gas has direct emissions, while electricity has only indirect emissions). This leads to a perverse result in which an ammonia plant that uses less gas and more electricity will incur an increased ETS costs of indirect emissions due to its reliance on electricity as opposed to gas. **In other words, ammonia plants that use electricity and have indirect emission would be disadvantaged as compared to gas-based plants that have direct emissions, which runs counter to EU climate policy objectives and drive to promote electrification of EU industry.**

Finally, there are **no viable substitutes to mineral nitrogen fertilizers**, therefore no other sector is disadvantaged by allowing fertiliser industry to continue to be eligible for compensation of indirect emission costs.

07.29, 24.44 Copper industry

Non-ferrous metal ores are commodities that are traded worldwide. This leads to high trade intensity and a globally competitive market. Price for copper is set on the London Metal Exchange (LME) with no exceptions. Price setting by the LME nullifies bargaining power of non-ferrous metal producers.

The EU is one of the biggest consumers of non-ferrous metals worldwide and as it has been losing its share of the global market, and dependence on imported raw materials of the production of metals and metal products has grown rapidly.

Because revenue and exchange rates fall outside of company control and generally apply to all international competitors equally, companies agree that performance in the market is principally determined by keeping costs low and productivity hi0gh. Electricity is one of the major costs faced by companies in the sector. Processes involved in the mining and smelting of copper are heavily reliant on electricity. Interviewees within the sector estimate that electricity consumption accounts for 10% to 20% of total costs, and this is backed by EU assessment.

While companies in the EU face indirect carbon costs, many major international competitors do not. This means that European companies must absorb costs or lose competitiveness. Because companies in this sector are so heavily reliant on electricity, the carbon intensity of the electricity supply is a significant contributing factor to the overall carbon intensity of the sector.

For copper the greatest competition distortion is between EU and non-EU producers. The industry reality is that reduction in production in one (non-compensating) Member State will not be replaced by production in another EU country, but by import from outside the EU. If a certain Member State chooses not to compensate, any cross-EU reduction in aid will lead to increased risk of carbon leakage in all Member States.

Carbon leakage is already evident by rising production numbers in Asia and not in Europe. During last ten years, global copper output increased by 50% but European copper production did not show any significant growth. Asia's share of world copper smelter output jumped from 27% in 1990 to almost 61% in 2017.

The transition to climate-neutral Europe can only be achieved with sufficient amounts of non-ferrous metals. The World Bank in 2017 projected that 300% more metals will be demanded by the world's wind turbines by 2050, 200% more metals for solar panels and 1000% more metals for batteries.

It is **estimated that 22 million tonnes of copper will be required over 2020 – 2050 in technologies expected to abate 75% of the EU GHG emissions** (Based on the EU 2050 "High-RES" scenario, of the EU 2050 energy roadmap, plus additional assumptions about the uptake of emerging technologies).

Copper plays an important role in renewable energy solutions – such as solar, wind, tidal, hydro, biomass and geothermal – by improving their overall performance. For example, a 3 MW wind turbine contains up to 4,7 tons of copper. In case of solar energy due to its intrinsic characteristics copper has always been the material of choice for the efficient extraction of electricity from solar cells.

Copper has the highest electrical conductivity of any metal, after silver. Products containing copper operate more efficiently with typical cost-effective reductions in energy use by 20-30%.

Copper is key component in all electric vehicles, playing an important role in their batteries and control systems as well as charging infrastructure.

Smart and connected electrical and thermal grids – copper helps tie it all together.

Compared to 1990 levels the **European copper industry has manager to reduce its energy consumption by 60%**. Emissions from copper production in Europe are 0.4 % of total EU emissions.

In addition, **copper is 100% recyclable** and can be used over and over without losing its engineering properties. Copper is also **a carrier of valuable metals** present in electronics, batteries (cobalt for instance, is as a key by-product of copper metallurgy - 60% of cobalt production).

Current State Aid Guidelines do not consider electricity used for oxygen as eligible for compensation even though **oxygen enrichment is considered as the best available technology to improve efficiency**.

This may also lead to an unfair competitive advantage and increase substitution with aluminium in some applications, as aluminium producers will be eligible for compensation.

Given copper sector's price taker characteristics and electro-intensive nature, the copper industry is particularly exposed to carbon leakage due to the indirect costs of EU ETS. The "price-taker" criterion needs to be integrated into eligibility assessment. Copper production as price-taker must qualify for indirect compensation complementary to any other threshold values. The indirect carbon cost related to outsourced oxygen production in copper smelters should be eligible to receive compensation as well. An improved indirect compensation in Phase IV, implemented in all EU member states is essential for the copper industry to continue to contribute to the greening of the European economy as foreseen by the EU 2050 Roadmap and the upcoming European Green Deal.

23.51 Cement industry

There is no cost pass through possibility in the cement sector as cement is a homogeneous product traded on local and international markets and faces commodity pricing. In addition, **cement producers in Europe are price-takers** and are unable to adjust prices upwards in the wake of increasing electricity prices.

- ✓ the added value in the cement industry decreased by 7.8% per year between 2008 and 2016, faster than the turnover which led to a margin deterioration;
- ✓ gross operating rate decreased by 11% between 2008 and 2012 and has remained at the same level since;
- ✓ many cement companies are still operating at a return on capital employed below the cost of capital;
- ✓ investments in the European cement sector have halved since 2009, falling from EUR 2.1 bn (2009) to EUR 944 million (2016)

- ✓ At a CO2 price of EUR 25, the cement industry's EBITDA threatens to be wiped out completely especially when no compensation for indirect costs is foreseen[3].

Electricity represents 11% of the energy mix in the cement sector and can account for 50% of the cost price for energy given the high electricity prices. In 2016, the weighted average external power consumption for cement manufacturing stood at 108 kWh/t (+1.1% per annum over 2014-2016) with indirect emissions intensity averaged 1.87 kg CO_2 / € GVA over 2014-2016. The share of direct vs. indirect emissions is fairly similar across countries with direct emissions accounting for approximately 89% of total emissions and indirect emissions – for approximately 11%.

The cement sector has an indirect emissions intensity that is higher than 1 kg CO2/€ GVA and therewith ranks 8th in the overall list of 246 industry sectors assessed by the European Commission. This means that the cement industry carries an exceptionally high cost burden induced by indirect emissions.

The European Commission relies on EUROSTAT data when assessing eligibility for indirect compensation. However, cement sector insists that in case of this sector **the accuracy of the Eurostat data is distorted** due to few circumstances.

Firstly, NACE 23.51 reports the added value of **more companies than the actual number** which artificially increases the added value for the sector and thereby distorts quantitative assessment of eligibility of the cement sectors.

Secondly, the added value calculation can be flawed because companies **can report the used allowances as an "input expenditure" or as "other management costs"**.

Finally, in some countries, **power consumption** in the cement sector only includes members of national cement associations and **does not include consumption of independent companies**.

The need for equal treatment between different building materials

Concrete is a building material that competes on the downstream construction market with steel, which is a building material that is already eligible for indirect compensation.

Therefore, it is essential that a fair and equal treatment is secured for materials that are competing on downstream markets.

It is not plausible that a sector that is among the top 10 sectors in terms of indirect emission intensity and evidently exposed to a significant risk of carbon leakage is not explicitly included in the list of target sectors.

23.11, 23.13, 23.14 Glass industry

Most glass is a commodity-like product, which entails fierce competition, an inability to pass-through costs to customers and increasing competition from facilities outside of the EU.

[3] Based on average production cost (ex-factory, i.e. without transport costs) of EUR 55/t cement and a sales price of EUR 80 – EUR 85.

The glass sector has very low possibility to pass on emission costs. For example, customers of the hollow glass industry, such as food and drink manufacturers, are dominated by large multinational companies. The industry faces pressures from upstream and downstream suppliers and competing industries. Upstream suppliers of raw materials, such as soda ash, are dominated by a small number of companies. One should also consider the importance of imports. For example, in 2017, EU flat glass imports increased by over 38% in volume but the upward 2016/2017 trend in the market was 3% only.

23.11 Manufacture of flat glass: high emission intensity combined with high trade intensity

For the flat glass subsector NACE code 23.11 'Manufacture of flat glass' is used. However, one must consider the imbalance between NACE 4-digit level data and the EU-ETS perimeter. Previous calculation included manufacturing of glass and coated products. The EU-ETS only covers installations which manufacture raw glass and, when applicable, online coating. Other processing and transformation should be not considered in the assessments.

23.13 Manufacture of hollow glass: high trade intensity combined with high emission intensity

For the container glass indirect costs are the largest among EU-ETS costs (up 13.5% of total European regulatory costs - The EC - Cumulative cost assessment of the EU ceramics and glass industry).

23.14 Manufacture of glass fibres: global market very high imports

The sector faces very high trade intensity even after applying AD measures on Chinese producers.

The lack of compensation for indirect costs does not support a fuel switch

Compensation for indirect emission costs can also contribute to the reduction of GHG emissions. Electric furnace is one of the most envisaged technology to decarbonize glass production. The lack of compensation is slowing down its large-scale development.

Glass products essential for carbon neutrality

European New Green Deal will require more glass as net CO_2 saving material in construction sector. Refillable and recyclable glass containers are crucial for the Circular Economy package. Glass plays an important role in renewable energy solutions (wind turbines production, solar energy glass). The sector is energy intensive but crucial to achieve neutrality targets. A qualitative assessment should be possible in such a case.

20.16 Manufacture of plastics

Plastics in primary forms should be also eligible for indirect cost compensation. The sector is at risk of carbon leakage due to indirect emissions costs for phase IV of the EU ETS. Therefore, we would like to present qualitative and quantitative arguments for the sector NACE 20.16.

According to the official data, the sector NACE 20.16 has had a trade intensity of 36% in the years 2013-2015. The high trade intensity in combination with low-cost pass-through results in a carbon leakage risk to European plastics industry. **Therefore, the sector's eligibility for indirect cost**

compensation is key to preserve the competitiveness and contribution of the sector to the future challenge of carbon neutrality in 2050.

Moreover, the chemical industry is more exposed than appears from the Carbon Leakage Assessment data. This is especially true for NACE 20.16. The highest uncertainty in the Carbon Leakage Assessments – the poorest data quality – is present in the assumed TWh electricity consumption. States submitted electricity data (NACE-4) which covered ca. (only) 70% of total indirect emissions in the Carbon Leakage Assessments of 2014 and 2018 [total = all sectors].

The Carbon Leakage Assessment 2018 with an electricity consumption of 28.9 TWh for the years 2013-2015 with a score 1 x 2b of 0.247 is most likely too low. Although the score 1 x 2b is well above the threshold of 0.20, it is important to realise that the real score is higher. The best estimate for NACE 20.16 from the attached report for the years 2013-2015 is 35.7 TWh, with a score 1 x 2b of 0.305.

Additionally, the greenhouse-gas emission targets, the thereby enhanced electrification of processes and rising EUA-prices lead to the effect, that indirect cost compensation becomes more and more crucial for competitiveness. A comprehensive, efficient, fair and transparent electricity price compensation is the basis for a carbon neutral economy, as foreseen by the Commission. **The plastics industry could shift more from a direct cost base to an indirect cost base in comparison with current energy supplies, as a result of further electrifying our processes technologies: The next 10 years (time period of the State Aid Guidelines) are crucial for enabling the scaling of such an industrial transformation.**

Furthermore, competition in main market segments is generally strong, as commodity, polymers' characteristics are easily met by producers and customers can easily switch purchases from one supplier to another. On the supply side, licenses for the basic process technologies are relatively easy to obtain, a factor that favours the emergence of numerous new producers particularly in the developing countries. International trade is therefore important and has been growing at faster rates than demand. **Key factor to successfully operate in commodity polymer markets is price.** Producers that enjoy structural cost advantages such as those located in the Middle East and more recently, U.S.A. can afford to ship large and growing amounts of commodity polymers over long distances. The number of players and of producing countries in the Rest of the World is rapidly growing, and competition is becoming more intense. Already, 50.1% of all plastics are produced in Asia. A consequence is that market opportunities for EU producers are increasingly competitive and that imports are becoming price setters in EU markets. **In the years 2013 to 2017, imports of plastics to Europe grew by an average of 7.4% per year, while exports increased by only 1.3%. For the eligibility of the plastics sector it is important that both, the homo- and the co-polymers are eligible.**

What's also worth noting is that the indirect compensation is very important to support electrification. **The major issue is the operational cost (OPEX): electricity must be cheap enough to be able to compete with natural gas, which is in recent years relatively cheap.** Electric boilers are one option to lower the CO2 emissions of steam generation. At the moment most steam for industry in Europe is generated by boilers or CHPs. For heat production in the EU-28 in 2017, almost 40% comes from natural gas, about 25% from solid fuels (i.e. coal, lignite) and roughly 25% from

renewables and biofuels. Thus for 65% of the present heat including the heat use of households and buildings, electric boilers are a serious option. As households and building are roughly 50% of the heat use, the potential for electric boilers is at least 65%/2 = 32.5% (because here heat pumps are much more efficient to produce low temperature heat). Nevertheless, many district heating systems have started to install electric boilers.

When electricity prices are low, then the marginal power plant has also a low emission (e.g. 0.20 ton CO2/MWh), while the average marginal power emission is still rather high e.g. 0.65-0.75 ton CO2/MWh. Thus, balancing towards 2050 the grid with electric steam boilers will also lead to lower the overall CO2 emission. At higher CO2 prices gas-fired electricity production becomes cheaper than coal-fired electricity production. The CO2 price is then above the so-called fuel switch price. Then the marginal power plants have an emission of roughly 0.90-0.95 ton CO2/MWh. This in itself is counterproductive for the use of electric boilers; the operational costs of electric boilers strongly increase. When the CO2-price becomes structurally higher than the fuel switch price, DG Competition should increase the marginal power plant emission factors used for the State aid for indirect emissions. **In case of absence of eligibility for the ETS State aid, electrification of such heat benchmark manufacturing plants is not even not incentivised, but electrification is de-incentivised**. Companies would pay a penalty by losing allowances instead of getting an incentive for electrification by getting more State aid. A zero and certainly a negative incentive to reduce emissions is of course in conflict with the very objective of the EU ETS Directive. This shows that the free allocation of allowances and the State aid are closely connected, these are together an integral part of the EU ETS Directive.

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